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CRETAN EXPEDITION

VIII

THE PREHISTORIC GROTTO AT MIAMÙ

THE village of Miamù forms part of the district of Messarà, and is situated in the mountain chain, usually called ἡ Κάτω ρίζα, which bounds on the south the valley of the Lethaeus (Γερο-ποταμός), the largest in the island, and separates it from the southern coast and the gulfs of Kaloi Limiones and of Ledda. The village lies to the south of Haghioi Deka, about two hours distant from the ancient Gortyna, on the most direct mule-path between the districts in the valley and the landing-place on the bay of Ledda, the ancient Lebena, which is still frequented by fishermen and small coasting vessels. This road, after leaving the plain near Plora (the ancient Pyloros), rises very steeply along the ravine of the stream of Haghia Marina, which descends between rocky and picturesque banks from the hollow of Miamù, reaches the plain near the village of Apesokari, east of Plora, and flows into the Gero-potamos.

Miamù is at the head of this little valley, in a spacious and pretty rounded hollow of meadows and cultivated fields, about half an hour from the pass through which you go down to Lebena. Provided with excellent springs and sheltered from the violent southerly storms by the higher ridge that encloses the hollow, its situation is adapted to being a centre of habitation by the facility of communication and by its strong position, as well as by the salubrity of the air, which is free from

malarial summer fevers of the coast and plain, and by the beauty of the landscape, which is enhanced by the view of the solemn and impressive mass of Mount Ida and of the whole plain of Messarà as far as the gulf of Matala.

The village rises in steplike terraces up the mountain side, and consists of about a hundred houses, which nestle in picturesque disorder amid the masses of compact limestone that

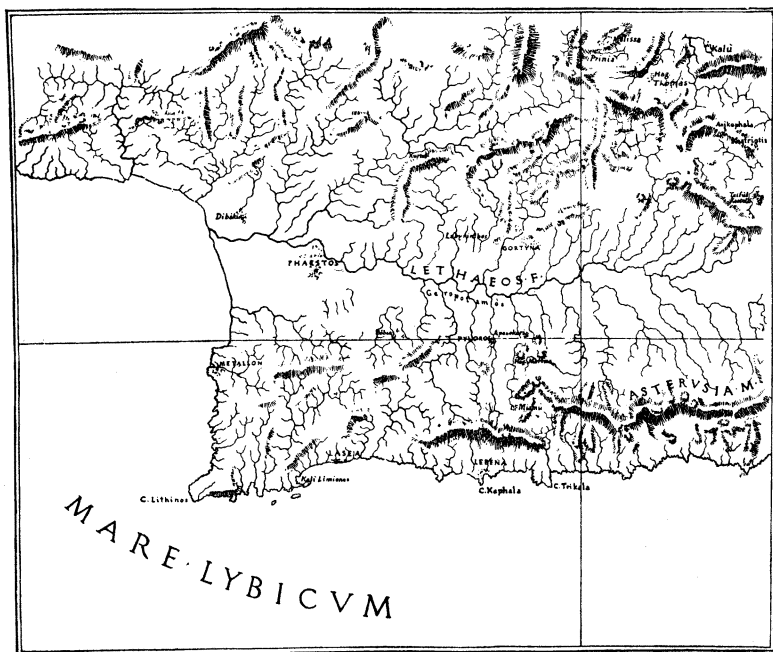


FIGURE 1. — MIAMÙ AND VICINITY.

come to the surface on every hand along the ridge of the hollow. In the upper part of the village is the house of Anagnostis Manidakis, where Professor Halbherr and I were hospitably entertained during our exploration of Lebena, as other archaeologists and travellers in Crete have been. Manidakis, in building his house a few years ago, came upon a grotto of not very large dimensions which he used as a store-house and cellar, after having made over the entrance and hav-

ing worked over and searched the soil. According to his story, he found human bones and a quantity of earthen vessels which, as they were regarded as of no value, were almost all dispersed. However, a human femur, a small fragment of a cranium, and two small vases are still preserved in the house.¹

One of these vases (Fig. 2) is a small pitcher, 0.10 m. high, with a single handle, made by hand of a clay which was not much refined and was subjected to imperfect baking.

It has a roughly spherical body, upon which is set a very short neck which expands into a wide mouth with a spout. The broad, round handle is strongly attached to the edge of the vase. This primitive form of *oenochœ* is found in the earliest cemeteries of Cyprus² and also in the lowest strata of the acropolis of Tiryns³;

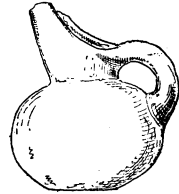


FIGURE 2.

but it is especially frequent at Troy, where many examples were found among the remains of the Second City, called prehistoric, according to Dörpfeld's division in *Troja*, 1893 (p. 86). It is a type which persists in the native Trojan ware through the different periods⁴ to that of the city of the sixth stratum (Dörpfeld), where by its side are found types of Mycenaean ware. After that its place is taken by the more advanced types, which Brückner calls *die entwickelten Troischen*,⁵ among which geometric decorative elements are prevalent. The Miamù pitcher is shown by the form of its spout and the thickness of its handle not to belong to the more primitive examples, although its sides are very thick and irregular, and it may be compared to the example figured in Perrot, *Histoire de l'Art*, VI, p. 901, fig. 448.

¹ These objects were also shown to Dr. J. Baunack, who visited the village in search of inscriptions: *Philologus*, XL (1889), p. 402.

² Dümmler, *Mittheil. von den griech. Inseln, Athen. Mittheil.*, XI, p. 224, Beil. 2, fig. 16.

³ Schliemann, *Tiryns*, p. 73 (German edition), fig. 3.

⁴ Small pitchers of varnished black clay are found at Troy, in the First City (Schliemann, *Ilios*, p. 258 [German edition], fig. 57), and in the Third City (figs. 357, 374, 376). More developed forms of the same type are given by Brückner, in Dörpfeld, *Troja*, 1893, p. 103, figs. 51-53.

⁵ Brückner, *l.c.*, p. 105.

The other little vase preserved by Manidakis (Fig. 3) is a conchoidal cup, 0.06 m. high, very wide and flat, with the base and mouth very much narrower than the greatest diameter. The mouth is surrounded by a vertical neck 0.01 m. high, and on the widest part of the body, at the two ends of the diameter, are two small projections with vertical holes for the string by which the



FIGURE 3.

vase was hung. The ware is coarse, but the surface is smoothed with a polisher. This elegant form of suspended vase is to be found in the earliest deposits of Tiryns,¹ and also in the Second City at Troy,² while in the later villages the form is less flat and the neck is higher,³ and some even have three or four feet at the base.⁴

The discovery of these objects attracted the attention of Professor Halbherr and myself, all the more so since by searching in the crevices among the rocks that surround the village, I succeeded in gathering many fragments of pottery of coarse and very badly baked clay, pieces of cups, handles of pitchers, and bottoms of vases. We decided therefore, after obtaining permission of the owner, to explore the grotto; although the condition of the soil, disturbed by the researches and the continual coming and going of the inhabitants of the neighboring house, left but little hope. In consequence I exercised unusual care and attention, and secured the assistance of good and careful workmen.

Figures 4, 5, and 6 give the ground plan and cross-sections (longitudinal and transverse) of the grotto. The entrance,

¹ Schliemann, *Tiryns*, p. 54, fig. 1.

² Schliemann, *Ilios*, p. 410, fig. 293.

³ Schliemann, *Ibid.* p. 409, fig. 286.

⁴ Schliemann, *Ibid.* fig. 1042; cf. figs. 270, 271. Vases much resembling this one of Miami have also been discovered in other Cretan deposits. Cf. that found in a tomb at Arvi belonging to the period of the Phaestian deposit (Evans, *Primitive Cretan and Aegæan Culture*, in *Primitive Pictographs, etc.*, p. 112, fig. 101).

as is seen in Fig. 4, is from the interior of Manidakis's house at the point A, through the original ingress E, facing south, and now made into the form of a door 0.60 m. wide and 1.05 m. high. Before excavation the grotto had the appearance of a crevice, 2.30 m. deep, with a width varying from 2.75 to 3.50 m. The side and entrance walls were formed by the limestone rock; that on the west was almost vertical, while that on

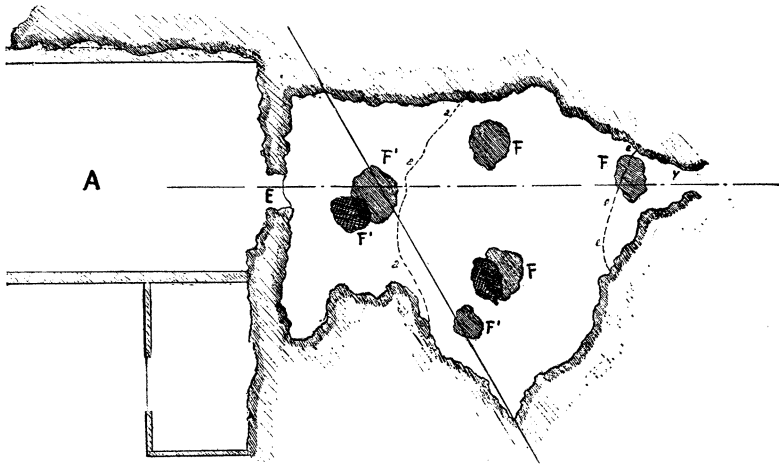


FIGURE 4.—THE GROTTO OF MIAMÙ: GROUND PLAN.

- | | | | |
|---------|---|---------|--------------------------------------|
| A | House of Manidakis. | y | Cleft at the back of the cave. |
| E | Entrance to the cavern. | F, F, F | Higher and more recent fire-places. |
| a, a, a | Front of the more recent deposit of earth. | F', F' | Deeper and more ancient fire-places. |
| e, e, e | Front of the more ancient deposit of earth. | | |

the east, as can be seen from the transverse section in Fig. 6, is far more irregular and inclined, so that it approaches the opposite wall at a point 3.75 m. above the level of the entrance, while at a little distance from the ground it slopes eastward, forming a crevice a few decimetres high and almost a metre deep; and, as this was on the very level of the sepulchral stratum that had been disturbed, it was here that I hoped to find some intact remains of this stratum. The end of the grotto was cut off by the edge of a slide of earth and of stones (*a, a, a* in the

ground plan, Fig. 4) which had fallen from the top and from the back, and had spread horizontally even over the sepulchral stratum; while a part, covered with calcareous incrustations, originally formed the bed or support of the stratum.

Having cleared away all the disturbed part of the upper stratum and the sepulchral stratum below it which had been disturbed, we found a few insignificant fragments of vases of

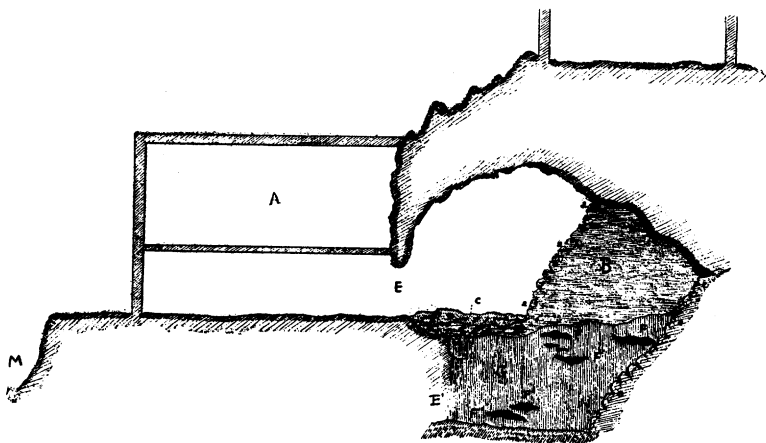


FIGURE 5.—THE GROTTA OF MIAMÙ: LONGITUDINAL SECTION.

- | | | | |
|---------|--|---------|-------------------------------------|
| M | Natural rock foundation under Manidakis's house. | e, e, e | Primitive earth deposit. |
| A | House of Manidakis. | G | Stratum of habitation. |
| E | Entrance to the cavern. | F, F, F | Higher and more recent fireplaces. |
| E' | Hypothetical primitive entrance. | F', F' | Deeper and more ancient fireplaces. |
| a, a, a | Front of the recent earth deposit. | C | Sepulchral deposit. |
| B | Recent earth deposit. | | |

various periods,—Roman, Byzantine, and Venetian,—which had fallen from above through the cracks in the rock, from the houses built over the roof of the grotto.¹

On the other hand, the natural niches made by the obliquity of the eastern wall still contained some remnant of the sepulchral deposit (*C* in Figs. 5 and 6), which must, at that level, have entirely covered the surface of the grotto. Here, together with

¹ This stratum contained also a damaged and worn terracotta statuette representing Asclepius standing.

a few remains of human bones, such as femora, ribs, and bones of the hand, I found some fragments of vases. From these I was able to put together a small conchoidal vase 0.08 m. high, similar to the one described above, but with very much thinner walls and with the neck much higher and better separated from the body of the vase, and with knobs not perforated. The outer surface, where it was not covered by calcareous incrustations,

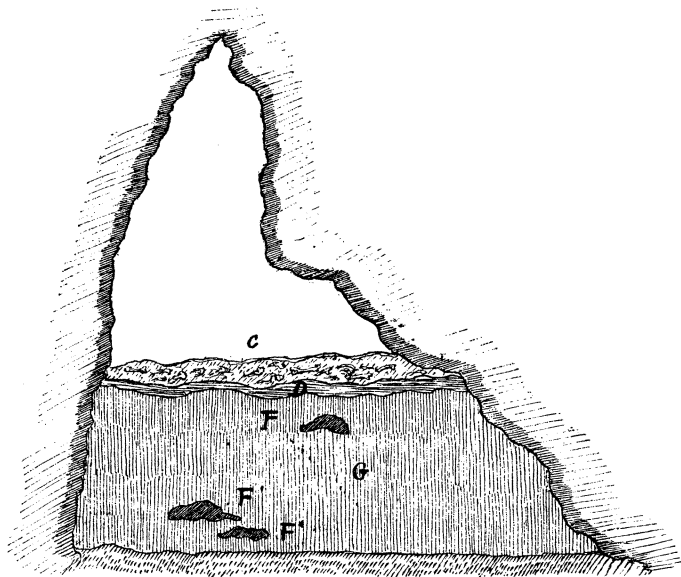


FIGURE 6. —THE GROTTO OF MIAMÙ: TRANSVERSE SECTION.

- | | |
|--|--|
| C Sepulchral deposit. | G Deposit of habitation. |
| D Bed of earth with calcareous incrustation. | F Higher and more recent fireplace. |
| | F', F' Deeper and more ancient fireplaces. |

had a light coating of pale rose-color.¹ Another almost complete vase was a small cup 0.05 m. high, without handles, with convex bottom, with walls slightly projecting outward, and with a flat and wide neck. This vase, in its shape, its coarse material, and its surface smoothed before baking, comes close to examples from the deepest strata of the acropolis of Tiryns.² More

¹ A similar vase, with knobs on the major axis instead of perforated handles, is found at Tiryns; Schliemann, *Tiryns*, p. 77, fig. 7.

² Schliemann, *Tiryns*, p. 75, fig. 6.

interesting is a pitcher, unfortunately in fragments, in the form of an elongated pear, narrowing toward the mouth, and with a

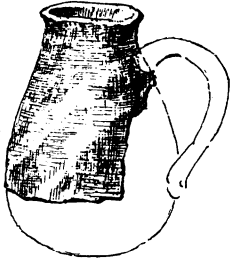


FIGURE 7.

small neck slightly increasing in diameter toward the top (Fig. 7). It was wheel-made, of purified clay, and perfectly baked; its sides are well proportioned, very thin, covered on the outside with a thin coating of pale rose-color, and under the calcareous deposit there are visible traces of narrow or diagonal bands of bright minium red. Vases of a similar form have been found in the primitive cemeteries of Cyprus,¹

but these have a horizontal spout. Similar vases were also found at Troy, in Schliemann's Fifth City, preceding the sixth Mycenaean stratum of Dörpfeld; these, however, have two handles, with oblique projections, and two protuberances standing for female breasts.² The rose and red colors are found applied more especially to vases of prehistoric houses in the island of Thera,³ and are also found among the ruins of the primitive town of Tiryns and in the Trojan settlements immediately above the Sixth City of Schliemann, and especially in that pottery which has a more distinctly indigenous character.⁴

The covering of calcareous incrustation on the bones and pottery that were found seems to me a proof that the sepulchral deposit had remained for a time, certainly not short, on the surface of the soil, exposed to the dripping of water saturated with carbonate of lime, which passed through the fissures in the grotto, until the crashing of some mass in the direction of the cavern allowed the earth and other material to fall in, which then covered and hid the deposit. Although the notes collected here are scanty, I believe I can assert that this is a burial tomb belonging to the Aegean period, and as can be proved by this

¹ Dümmler, *Mittheil. von den griech. Inseln, Athen. Mittheil.*, XI, p. 227, and Beil. 2, fig. 17.

² Schliemann, *Ilios*, fig. 1299.

³ Perrot, *Histoire de l'Art*, VI, p. 906.

⁴ Brückner, in Dörpfeld, *Troja*, 1893, p. 105.

comparative study, that it can be chronologically referred to the period of the tombs in the Cyclades and of the prehistoric village of Thera. Hence it is contemporary with the Third to the Fifth Cities of the Trojan acropolis, which are dated by Dr. Dörpfeld, from his recent researches and excavations, between 2000 and 1500 B.C.¹

Having collected all the objects that rested on the bed of the layer, hardened by incrustation (D, in Figs. 5 and 6), and having searched, till I touched the east side, the narrow niche in the grotto, I thought that I had come to the end of my task and of the hopes I had built on this excavation ; but, through a scruple of conscience that was justified, I decided to make an essay on the hard crust of fallen earth which covered the ground, and was surprised when, after passing a stratum of stones about 0.30 m. in thickness, the excavator's pick struck into an almost black earth, about whose origin there could not be the slightest doubt. It was worth while, therefore, to lay bare this new archaeological stratum and to examine it carefully. Before digging down, however, I thought it fitting and prudent to clear the grotto entirely of the rubble (B) which shut off the end of it, and then found that the grotto originally must have been 5.40 m. long, and that proceeding toward the back it spread out gradually to a width of about 5 m., narrowing again to the form of a narrow crevice (*y*, in Fig. 4), through which the earth had entered the grotto and had filled so large a part of it, — perhaps even before it had served sepulchral purposes. Having moved all the material that had come through (B, in Fig. 5), and having cleared away all the stratum of hard soil 0.30 or 0.40 m. high, I found a bed covering the entire grotto formed of a black soil, greasy to the touch, formed of decomposed organic matter mixed with small fragments of charcoal, and so full of bones of animals and fragments of pottery as to show that it was a deposit left by human families living for a long time in the grotto. This soil was removed in horizontal layers from the entire surface of the grotto, I myself

¹ Dörpfeld, *Troja*, 1893, pp. 86, 87.

watching the work, and one of the workmen sifting it with a sieve at the entrance to the grotto, and picking out whatever had escaped me in the semi-obscurity of the interior. Thus I noticed that the stratum became blacker as it approached certain thick masses of ashes and charcoal which represented the fireplaces which had certainly been used for a long time, as was evident from their extent and thickness. Around them the ground was almost hardened and burnt by the heat of the fire. I found several such fireplaces or large lens-shaped masses of ashes in the first upper stratum, as may be seen from the plans (Figs. 4, 5, and 6, F, F, F). One was 2.85 m. from the entrance, about 0.30 m. from the western wall; its diameter was 0.75 m., and it must have been once given up and then used again, as it was composed of two layers of ashes each 0.15 m. thick, separated by a layer of soil 0.10 m. thick. There were two other fireplaces at the east end of the cave, on the same level and at the same distance from the entrance as the first. One was 1.80 m. from the wall, the other, somewhat smaller, was deeper in the niche formed at this point of the cave. Near the back, finally, in the narrowest part, there was still another fireplace, 4.80 m. from the entrance. It formed a large mass of ashes and charcoal; its thickness, 0.30 m., showed that it must have been in use for a long time. In this part of the cave I found a new wall of earth, in very large masses, solidly joined to each other, which had fallen through the cleft in which the cavern ends (Figs. 4 and 5, *e, e, e*). But as I observed that the last fireplace rested partly on top of these masses of earth, it was clear that this earth had fallen through before the formation of the layer and of the fireplace, and must even at that time have limited the usable space in the cave.

Around these masses of charcoal and hardened ashes, I noticed the presence of large quantities of bones of animals, broken and burned by the fire, other remnants of meals, fragments of pottery and other remains of primitive industry, but these were not lacking throughout the surface of that stratum. All the bones of animals showed that they had been exposed to

fire and had been cast away after the meal ; the large, long bones were split, and the small ones were broken and crushed. Among the few bones that could be recognized were the thigh bones of oxen, the jaws, ribs, and leg bones of goats and sheep, little jaws and bones of hares and rabbits. I noticed also the shells of shellfish of the species *Unio pictorum*, as well as a quantity of claws and a few antennae of the sea-crab (*Carcinus maenas*), and of the lobster (*Homarus vulgaris*), which indicates that the dwellers in the cave liked variety in their meals. Besides the broken bones, there were also prepared bones, fragments of long ox bones made very sharp by being rubbed on a sandstone, and cylindrical pieces of smaller bones and of the lesser branches of stags' horns, made sharp and pointed, in order to be used as lance and dart heads. I found, too, broad spatulas, made from the large bones of the ox, made smooth and shiny by rubbing, which must have been used either to flay animals or perhaps to smooth the surface of the vases during the process of manu-

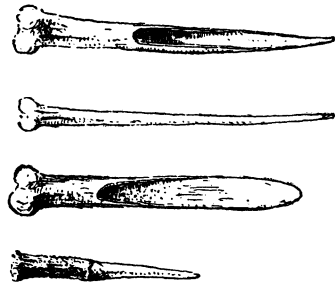


FIGURE 8.

facture (Fig. 8). Large pointed pieces of bone that can be used by hand were found in great quantities in the deep strata of Troy¹ and of Tiryns,² and I have also seen some that came from the deeper trenches of the Acropolis of Athens; they are the most natural arms for any primitive people, and those most easily obtained. Sharp and well-made points of bone have been used for domestic purposes and also for hunting-darts in all ages and in all sorts of places.

In breaking up the fireplaces of this layer, together with many shapeless bits of limestone burned by the fire, I found

¹ Schliemann, *Atlas d'Antiquités Troyennes*, pls. 25 and 66, figs. 1481, 1482. Cf. *Ilios*, p. 296, figs. 132-134, and p. 480, fig. 581; cf. p. 1259. Dörpfeld, *Troja*, 1893, p. 98.

² Schliemann, *Tiryns*, p. 93; Perrot, *op. cit.*, VI, p. 948.

also a hand-mill of hard fossil limestone, still well preserved, of a long oval shape, the lower surface rough, the upper surface still smooth and slightly hollowed by the grinding. In addition to this entire specimen, I found other broken ones, but all of the oblong shape and of the same hard stone; I found, too, some cylindrical pestles and upper mill-stones of a spheroidal shape, of trachytic rock (probably not Cretan), polished by rubbing (Fig. 9), which must have served to pound some edible seeds.¹ This kind of hand-mill and pestle, which I have seen still used in some Cretan villages, was found in the primitive settlements in the Cyclades, and the many specimens found by Schliemann and the observers who followed him in

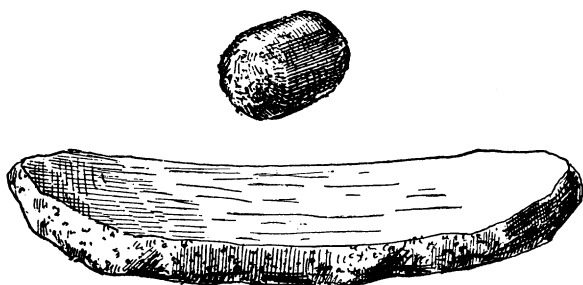


FIGURE 9.

the several layers of the Trojan acropolis are well known. I also found some stone-polishers smoothed on one side by rubbing, which must have been used in the manufacture of pottery, where the wheel was lacking.

The ceramic remains were very numerous, both in the ashes of the fireplaces and throughout the layer, but, as may be easily imagined, the ground having been constantly trampled upon during the time the cave was inhabited, they could be found only in small pieces. Nevertheless, from the fragments gathered and from the few vases found whole or nearly so, I think it possible to make a few remarks on the subject. In

¹ Hand-mills of trachytic stone were found also in the remains of the original Trojan city. Schliemann, *Ilios*, p. 266, figs. 74, 75; for the upper stones and pestles, see figs. 80, 81.

the first place, two kinds of pottery could be distinguished, different in appearance and material, — a class of coarse, rude vases, and another of smaller and better-made vases. Both, however, were evidently made without the aid of the potter's wheel.

The vases of the first kind were fashioned out of a dark gray paste, unpurified and imperfectly ground, containing many little pebbles and grains of stone and many air cavities. The paste either showed no signs of baking, or was hardened only on both surfaces in an open fire; the vases therefore crumble easily in spite of the thickness of the sides (15 to 20 mm.), the outer surface was irregular, imperfectly scorched by the fire, and was often blackened by smoke and covered with a soluble layer of hardened soot, which showed that the vase had been long used for domestic purposes. Such vases with thick sides must have been also of large dimensions, but precisely on account of their bad quality they are also the most shattered; still I was able to obtain large fragments of sides, indicating vessels of pretty large diameter, or pans with rounded bottoms and vertical or slightly expanding sides, or else great spheroidal jars, with necks narrower than the body, comparable to the more primitive specimens obtained from the Trojan excavations.¹ Handles of primitive shape were joined to these vases; they were solid, flat handles with curved bridge, fastened to the two diameters, close to the upper edge of the vase, or else excrescences, split vertically, projecting from the sides (Fig. 10). There were many examples of handles formed by projections of the side itself, perforated either vertically or horizontally: examples of double perforation were also plentiful. This form of handle indicated vases hung by means of cords either to the walls or over the fire; the excavations in the deeper strata



FIGURE 10.

¹ Schliemann, *Atlas d'Antiquités Troyennes*, pl. 55, no. 1289.

of Troy have furnished specimens of these different primitive forms.¹ These forms of rude and coarse vases are the most primitive; they are the first products that come from the hand of the primitive potter, but they are also those that are longest preserved by the same people in a more advanced stage of its development; for as Perrot well says: "Le luxe a ses caprices; mais le ménage a ses exigences."² When more perfect processes to obtain vessels of great capacity were unknown, it was necessary to make use of very thick sides, more solid and capable of resisting fire, and more suited to hold the water and other liquids needed in the house. So even when the potter's hand has acquired the skill to turn out more elegant and less rude forms, for domestic uses the more primitive and traditional forms, satisfying determinate objects and needs, will still be preserved.

It would be only too easy to find for this primitive class of Miamù pottery points of comparison with the products of other prehistoric stations both on the shores of the Aegean and from other Mediterranean regions, not only in deposits found in natural caverns, but also in prehistoric settlements on the shores of the central European lakes and in terramares. The field opened out by such comparisons, however, is as vast and uncertain as the circle of these forms is narrow and restricted.

Besides this kind of pottery, however, the cave of Miamù contained other types, more developed, with more homogeneous and better ground paste and thinner and more regular sides. Sometimes the vase after it was finished was dipped in a bath of clay dissolved in water, so that a softer and more delicate surface layer was formed. I noticed, however, that more often a different technical process had been used: the vase, first smoothed by the hand, had been polished, before exposure to the fire, with the spatula and the stick till it had a sort of glistening polish over the whole surface, which nevertheless showed the traces of the successive applications of the stick by which it had been obtained. Some of these polished vases

¹ Schliemann, *Ilios*, p. 248, figs. 31, 39-42; Perrot, *op. cit.*, VI, p. 897.

² Perrot, *op. cit.*, VI, p. 896, fig. 443.

were of a glistening black, others of a reddish brown turning to chestnut. Very many hand vases of shining black are found at Troy and at Tiryns; also in fragments of pottery which I picked up in the ruins of the primitive village of Thoricus in Attica.¹ In this second class of pottery, too, I think I may exclude the use of the wheel, though the forms are more developed and elegant.

The only whole vases I could find were two or three of the little pots so common in the deep Trojan strata, and called by Schliemann and by Brückner *iliputisches Geschirr*,² in the shape of two reversed truncated cones joined at the two widest diameters (Fig. 11). I found, too, many specimens of plates, very large and flat, with convex bottom and with the rim



FIGURE 11.

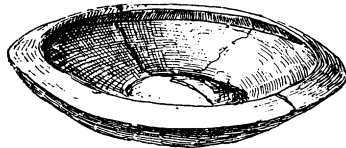


FIGURE 12.

turned slightly in (Fig. 12). These plates or dishes, without handles, and with widespread, smooth surface, make us think of the fine specimens obtained at Troy,³ and of those found by Father Amerano in the caves in the Finale district in Liguria, preserved in the Ghisglieri college at Finale Marina.⁴ Some of the pieces found by me at Miamù would warrant the supposition of very large dimensions, but I came across no specimen of a dish with a foot or with handles fastened to the extreme edge.

¹ The primitive village of Thoricus shows traces of industries as primitive as the oldest of Tiryns.

² Dörpfeld, *Troja*, 1893, p. 91.

³ Schliemann, *Atlas*, pl. 100, figs. 2220-2272; *Ilios*, p. 257, fig. 52 and p. 596, fig. 1064.

⁴ A. J. Evans, Prehistoric interments of the Balzi Rossi caves and their relation to the Neolithic cave-burials of the Finalese, *Journ. Anthropol. Inst.*, XXII, 1893, p. 300; Amerano, *Dei vasi colorati e dipinti nelle caverne di Finale*, *Bullett. Paletn. Ital.*, 1894.

From this layer I also obtained an almost complete bowl (diameter 0.11 m.) and other broken ones, of boat shape, with two handles (Fig. 13). These bowls, with spherical bottoms, raised by a pressure inwards in the centre, have on the outside

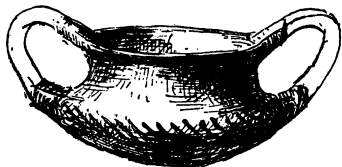


FIGURE 13.

along the line of the greater diameter a series of oblique ornaments, made with a deep impression, which often are found also on the two projecting handles, which are joined on the line of the diameter, and curve

over the clean-cut, regular edge of the bowl.¹ On seeing the shape and appearance of the black, shining surface of these bowls, I could not help thinking of the finest of the bowls from the Finale caverns, which, even more than those from the terramara of Castione in the Parma museum, present the Trojan type.²

Among these vases of more developed shape were some specimens, unfortunately only fragmentary, but of which I could make out the outline, of the well-known bell or tulip form. Vases of this kind had very delicate walls, and were consequently extremely fragile; they were made of purified paste, were much polished on the surface, and although made by hand with the stick alone, without the aid of the lathe, show uncommon technical skill. The tulip vases have a spherical bottom with an impressed bulb rising in the middle like the bowls and vases mentioned above. From this bottom stand out distinctly the sides of the vase, narrowing slightly with a beautiful curve, and then widening somewhat near the mouth; halfway up the sides, and sometimes near the mouth, are the handles, a mere ribbon, expanding but little, and not very solid (Fig. 14). This form, perhaps the most elegant

¹ Cf. the elegant earthenware of the ancient Trojan acropolis, Schliemann's Second City. Schliemann, *Ilios*, fig. 1376.

² Pigorini, *La terramara di Castione dei Marchesi*, *Memorie Accad. Lincei*, third series, VIII, pp. 285 ff.

among the Miamù vases, is also not rare at Troy in the primitive cities explored by Schliemann;¹ it is, however, well known to explorers in the Neolithic settlements, whether dolmens or artificial or natural caverns of western and southern Europe. Not to multiply the too suggestive examples, I merely mention the beautiful bell vases of the Finale grottoes, those of the grotto of Castelet in southern France,² and of some artificial grottoes of Portugal, illustrated by Cartailhac,³ as well as the noteworthy specimens of the same type which first Issel, and more recently Cooke, found in the caverns of Har Dalam in the

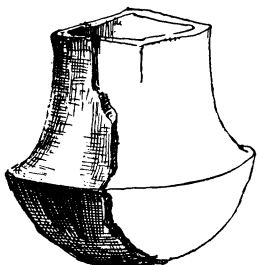


FIGURE 14.



FIGURE 15.

island of Malta, and which Issel ascribed to the end of the Stone Age or the beginning of the Metal Age.⁴

Some of the fragments of the Miamù cave had also *graffiti* ornamentation traced with an uncertain hand; for the most part horizontal lines or bands of lines marked around the body or side of the vase. On some of the fragments a series of triangles was incised above or below a horizontal line, and filled with lines parallel to one of the sides (Fig. 15); in some the lines were very delicately traced, and with some regularity;

¹ Schliemann, *Atlas*, pl. 48, no. 1147, 1151; pl. 62, no. 1393.

² Cazalis de Fondouce, *Allées couvertes de la France*, *Matériaux pour l'histoire de l'homme*, XIII, p. 400, pl. 16, fig. 1.

³ Cartailhac, *Les grottes artificielles sépulchrales du Portugal*, *Matériaux*, 1885, pp. 1 ff.

⁴ A. Issel, *Matériaux*, 1865-66, pp. 242-246, and *Rivista Marittima*, I (1874), pp. 116-124; J. H. Cooke, *The Har Dalam Cavern, Malta*, *Proceedings of the Royal Society*, LIV. (Cf. *Bull. Paleon. Ital.*, XXI, p. 42.)

in others, on the other hand, the deep incision had left deep and disorderly furrows, in which the decorative intention could scarcely be made out. I found no example where the incisions were filled with chalk-white coloring matter, as is so often the case at Troy, where *graffiti* decoration is very common, and reaches a noteworthy development and regularity.¹ Among the various fragments of decorated vases found at Miamù I must mention one found in the fireplace most distant from the entrance (Fig. 16). It must have been part of a bowl

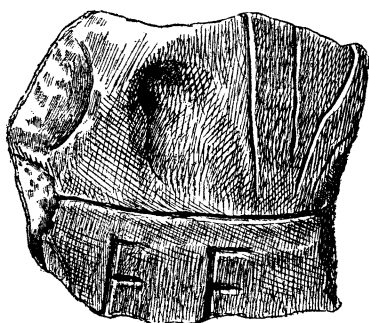


FIGURE 16.

of no large dimensions, of very fine paste, and light maroon color, covered on the two sides by a layer of dark maroon, so carefully polished before burning that it had the appearance of a varnish. The fragment has also a little earlike handle projecting but little on the side of the vase. On the belly there ran a horizontal line in

graffito, above it were some oblique lines converging toward the bottom; below the line two marks that almost recall those of the E. At first sight we might think that these signs belong to the linear series gathered and illustrated by Mr. Evans from Peloponnesus, and especially from Crete.² They may be compared with those on the seal of Praesus, Crete (p. 293, fig. 29), and with the signs on Aegean pottery found in Egypt by Mr. Flinders Petrie.³ In formulating this hypothesis, I should also have the support of some Trojan examples which Schliemann said he had gathered in the

¹ Schliemann, *Atlas*, pl. 27, no. 703; examples from the deepest strata, *Ilios*, p. 338, fig. 175; cf. Perrot, *op. cit.*, VI, p. 899, fig. 445; example with more accurate decoration in Brückner, *loc. cit.*, p. 92, figs. 34, 37, 43; cf. p. 103, figs. 51, 53.

² Primitive pictographs and prae-Phoenician script, *Journal of Hellenic Studies*, 1894, pp. 270 ff.

³ Evans, *op. cit.*, p. 349, pl. 1, no. 5.

deepest strata of the trenches opened by him, without speaking of many spindle whorls from various levels.¹ But, in the first place, the dates of Schliemann's first excavations are rather uncertain; in the second place, it must be noted that the whole layer whence the Miamù fragment came, by its regular stratification, and by the material contained in it, presented characters of such antiquity that I really hesitate to regard them as signs in a system of writing, no matter how primitive. Though I may agree with Mr. Evans in admitting the existence in the island of Crete, as well as in other places in the Aegean, of a system of linear writing, independent of and preceding the Phoenician, I absolutely cannot push back its appearance to the period to which the stratum of habitation of the Miamù grotto belongs, for everything accords in putting its date at a period much earlier than the development of Aegean civilization. I am therefore obliged to maintain that the signs marked on the Miamù vase are decorative, and that this time at least we are in the presence of one of those often surprising cases of analogy and resemblance that must be attributed to that great factor, too often and even wrongly invoked, which Reinach has wittily called "sa majesté, le hasard."² In fact, if we turn our eyes to the pottery of many primitive settlements in regions

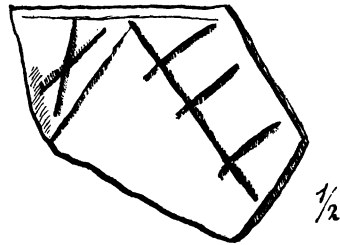


FIGURE 17.—FRAGMENT FROM THE BLUE GROTTO OF SAMATORZA (TRIESTE).

around the Mediterranean, we shall find frequent examples of *graffiti* signs of enticing appearance; passing over others, I will mention a vase recently found by Professor Marchesetti in the Blue Grotto of Samatorza in the district of Trieste,³ with a mark very like that on the Miamù fragment (Fig. 17).

¹ Thus the fragment represented in pl. 27, no. 908, of the *Atlas*, has the mark of the Cyprian *pa* ÷; other vases with signs which Schliemann thought alphabetic are pictured in *Ilios*, p. 337, fig. 173.

² S. Reinach, *Anthropologie*, 1893, pp. 539 ff., 699 ff.

³ Marchesetti, La grotta azzurra di Samatorza, *Atti del Museo Civico di*

Having exhausted this stratum, as the black soil, rich in organic remains and potsherds, showed no sign of coming to an end, I continued digging down by small layers. As we descended, the burnt and broken bones of animals continued, as did the fragments of pottery, which however became ruder and more broken. At the depth of 1 m. and at a distance of 2 m. from the entrance, I came across a fireplace (Figs. 4, 5, 6, F'), that is, another lens-shaped mass of ashes with bones and vases, very compact and almost solidified by the pressure of the superincumbent strata. The pottery found in this fireplace was in small fragments and of extremely rough paste. I could only recognize a few ear-shaped handles of primitive type, and a few rude bottoms of vases of enormous thickness, with the external surface smoked.

Removing the material, I continued to go lower in the excavation. At a depth of 1.50 m. the fragments of pottery began to become more scarce, and then ceased, but scattered through the black soil were cinders and the bones of animals that had evidently served for food. At last, at about 1.80 m. below the level of the entrance, I found another lens-shaped mass of ashes, but compact and so hardened by pressure that the pick was needed to break it up, and under this a similar mass, less thick but equally hard (F'). These two fireplaces contained only charcoal and bones, among which could be recognized two upper ends of ox thigh-bones, calcinated by fire. I went some centimetres lower and found that the soil gradually lost traces of coal until the pick of the excavator struck against the bed rock. As may be seen from the sectional plan (Fig. 5), the cave had almost the appearance of a well, and it was difficult for me to imagine that the persons who for so long a time made use of the lower fireplace, at a depth of 1.90–2.00 m., should have made use of the present entrance, and should have been obliged constantly to descend and mount from a change of level so sudden and so great. I

Trieste, IX, 1895, pl. 2, fig. 36. The grotto is believed to be Neolithic by its excavator, and lacks all traces of metals.

must note, however, that when I was on the lower level, the air blew in so strongly from some clefts in the southern wall as to put out the workmen's lights. I should have liked to advance in that direction, but the presence of Manidakis's house prevented me; the owner, however, assured me that while the house was being erected he noticed a sort of conduit that led towards the south, and which he believed must have come out on the slope M (Fig. 5), now occupied by the stairway leading into his house. It seems to me, therefore, that we may believe that this was probably the ancient entrance to the cave (Fig. 5, E').

So, summing up the observations made thus far, we may say that a human family, in very ancient times, came to inhabit the cave of a width and breadth of about 5 m., provided with an entrance and an air-hole above the entrance. As the family continued to dwell in the cave, detritus and refuse accumulated in it; perhaps, too, some copious infiltration of earth. This raised the level of the cave so much that the ancient entrance could no longer be used, and what had been the air-hole or window became the door for the successive dwellers. As may be seen from the immense quantity of deposits, these Troglodytes must have lived in the cavern for a very long time, perhaps for several centuries, until either the progress of civilization, or perhaps, too, the constant danger of the earth-slides which poured in from the back, drove them out into the open. When they had ceased to dwell in it, a land-slide covered the earliest strata, completely concealing them. Later, when a village of the Aegean civilization was formed in the district of Miamù,¹ the cave served, perhaps several times over, as a tomb for the people of that period. The deposits of this period remained uncovered until they had been incrustated by the drippings of calcareous water; then they, also, were overwhelmed and covered by earth-slides, which continued down to our time, when Manidakis turned over the upper stratum.

¹ A village was in existence perhaps even in Hellenic and Roman times.

I have taken space to describe this discovery because it had the marks of great antiquity, and hitherto discoveries of this character have been rare on Hellenic soil.¹ The absence of metallic objects in the inhabited stratum is not, in itself, a sufficient ground for maintaining that we have to deal with a dwelling of the Stone Age, whether chipped or polished, but it is rather the appearance of worked points of bone and of the primitive forms of pottery that leads us to think of a people contemporary with or perhaps even more ancient than the one which left the first traces of habitation on the hill of Hissarlik, and which Dörpfeld ascribes to 3000–2500 B.C.²

If, passing beyond that date, we reach a period in which the monuments of the Orient alone speak, we do not, however, remain isolated or without means of comparison in the Western countries, since the industrial and technical characteristics revealed by this cave have many points of affinity with those of other peoples of the Neolithic and Bronze Ages of the Mediterranean, and may serve as a support for the theory of those scholars to whom the fundamental unity of these peoples, as well as of Mediterranean civilization, seems to be a perfectly clear and indisputable fact. What now seems certain is that the recent Neolithic discoveries throughout the basin of the Mediterranean and the study of the first Ages of Metal in European regions are little by little doing away with the difference of time between the civilizations of the Eastern and Western regions, a difference which has been enormously exaggerated, even by recent students.³

The lower stratum of the Miamù cave furnishes the fact, which we hope will not remain isolated, of a dwelling, if not

¹ Perrot, *op. cit.*, VI, p. 110, says that in Greece, “on n’y a pas encore découvert de cavernes qui aient été habitées au cours de la période primitive et qui contiennent les restes d’un mobilier en pierre et en os.”

² Dörpfeld, *Troja*, 1893, p. 86; *Die Ausgrabungen in Troja*, 1894, *Athen. Mittheil.* XIX (1894), p. 380, pl. IX. Comp. Götze, *Die letzte Ausgrabungen in Troja*, *Verhandl. d. Berl. Gesells. für Anthropol.*, 1895, p. 279.

³ Nadailhac, *Les dates préhistoriques* (cf. *Anthropologie*, 1893, p. 607), still places the East twenty-five or thirty centuries earlier than the West.

of the Neolithic Age, at least of the first metal period ; and its stratification below the Aegean deposit makes clear that even in Crete indigenous civilization, however rudimentary, must have had its beginnings in a very distant period.

The comparisons made as regards technique and the various ceramic types between the material found at Miamù and that of other western districts might be increased at will ; but those brought forward may suffice for some students to bring this cave and its remains into the growing field of Neolithic and Bronze civilization of the Mediterranean. As early as 1882, Professor Pigorini,¹ comparing the characteristic funeral usages of the Neolithic Age common to the natural and artificial caves and dolmens found in many parts of Europe, thought that these facts revealed "peoples of common origin, rites coming from the same source." É. Carthailhac also in the conclusions which he drew from the study of the primitive monuments of the Balearic Islands, and of the Stone Age in North Africa, asserted that our knowledge of the Mediterranean taken as a whole seemed to him sufficient to establish the fact that, before the diffusion of metals, one identical civilization stretched from East to West, spreading in an irregular fashion.² Such a common civilization throughout the Mediterranean is almost absolutely acknowledged by S. Reinach too in various places, and especially in his witty article entitled "Le mirage oriental."³ He there analyzes the characteristics common to the different centres of civilization in primitive Europe, and finally recognizes, "l'unité foncière de civilisation des peuples de la Méditerranée au XV siècle et plus tôt encore" (p. 712), a unity which, he says, cannot be explained by oriental influence, but rather from the fact that these peoples were neighbors to each other, "qu'ils avaient hérité d'une civilisation commune . . . et que plusieurs d'entre eux restèrent en com-

¹ *Bull. Paletnol. Ital.*, VIII, p. 35.

² Émile Carthailhac, *Monuments primitifs des îles Baleares*, 1892. Cf. *L'âge de la pierre en Égypte*, *Anthropologie*, 1892, pp. 405 ff.

³ S. Reinach, *Anthropologie*, 1893, pp. 539 ff., 699 ff.

munication, se transmettant de proche en proche par un va-et-vient constant d'influences, quelques développements de cette civilisation primitive" (p. 712). This historical identity of basis has been admitted recently by some of our anthropologists also, especially by Professor Sergi, who, from extended studies of the ancient skulls of the Mediterranean region, is led to decide that a unity of ethnical characteristics prevailed till the Neolithic period throughout the Mediterranean region, and remained unaltered in spite of later admixtures and crosses.¹ This community of ethnical characteristics is more perceptible the further back we go into primitive times, and with this archaeological facts also agree, from which greater analogies appear between the western regions and the primitive Aegean civilization, as well as that of Mycenae, this Mycenaean civilization which, as Reinach says, "est déjà un dialect local de la langue commune" (p. 709).

To me it seems at least premature to talk of unity of race and of a single ethnical substratum for all the regions about the Mediterranean at a time when the methodical study of the subject has scarcely begun, and that it is rather necessary to limit ourselves to a more modest order of ideas. I think, however, that we may without imprudence point out with Mr. A. J. Evans² the existence in a pre-Mycenaean period of a vast archaeological area, "the continuation of which may be traced over the island stepping-stones of the Aegean to the mainland of Greece, while in the other direction kindred forms extend along the Danubian system to reappear amongst the pile dwellings of Switzerland and Carniola, the terramare of the Po valley, and even in Ligurian caves." In this archaeological area analogies between the different points are daily discovered,

¹ Sergi, Etruschi e Pelasgi, *Nuova Antologia*, September 1893, p. 133; cf. Ursprung und Verbreitung des mittelländischen Stammes, transl. by D. A. Byhan, Leipsic, 1897. See *Razze Mediterranee*, 1895; *Arii ed Italici*, 1898. Cf. Evans, The Eastern Question in Anthropology (address before the Anthropological Section of the British Association for the Advancement of Science, Liverpool, 1896).

² Evans, *Journal of Hellenic Studies*, XIV, p. 271.

such as that of ceramic types and technique, and also that of some elements of decoration, whose diffusion may be traced in various directions across the Mediterranean and from its shores towards the inland countries of the Danube valley and of the so-called Celtic region.¹ Indeed, according to Mr. Evans's idea, the relations that are clearly visible during the flourishing age and decline of the Mycenaean period may be the continuation of facts whose beginnings existed even in pre-Mycenaean times.²

But while these relations and reciprocal influences among primitive peoples are being traced, we must at the same time, I believe, allow a large part to the individual initiative of the single nations, which, especially in the first steps of civilization, leads to results often identical, on account of the simplicity of the objects and the limitation of the means. Moreover, I must say that the rage for presenting syntheses and complete pictures of civilizations thought to be contemporary and to complete each other reciprocally, often makes us consider only one side of the question, and brings out only some individual characteristics, to the neglect of others no less important. Thus I must note that even recently Evans, in the work mentioned, seemed inclined to join in the same group as to civilization the terramare of the Po valley and the caves of Liguria, whereas I believe that the very broad studies of Professor Pigorini have demonstrated that the terramare represent the civilization of the Bronze Age and the first stage in that of the Italic peoples of the Apennine peninsula. The caves of Liguria, on the other hand, are connected with a different group, much less complex, although widely diffused.³

¹ The traces of the diffusion of these decorative elements, especially the spiral, were followed out by Evans, in Mykenaeen Treasure from Aegina, *Journ. of Hellenic Studies*, XIII, pp. 197 ff., 223 ff.; cf. Primitive Pictographs, etc., *ibid.*, XIV, p. 329; and by Naue in his recent work, *Die Bronzezeit in Oberbayern*, Munich, 1894.

² Evans, *Journ. of Hellenic Studies*, XIV, p. 329, n. 29 b.

³ R. Verneau, Les sépultures de la Barma Grande, *Anthropologie*, 1895, pp. 152 ff.; cf. pp. 345 ff.

The question may be asked with regard to our grotto of Miamù, whether the families which laid away their own dead in the tomb were the more advanced descendants of those who for so long a time dwelt in the cavern. It may be remarked that some identity of purpose may be followed in the pottery, but on the whole our data are not enough to answer the question. In general, however, I believe that the persistence of races is greatest in islands, while it seems to me hardly scientific to call in a new invasion of peoples or nations for every step in civilization, and still less for every slight advancement in industry or art noticed in any place. Even at Troy, where the remains from the different strata nevertheless take on so many successive forms, the particular remarks made recently by Brückner¹ in the department of ceramics agree in establishing that the more developed forms of pottery are not to be attributed to peoples different from those who moulded the more rudimentary forms of the first period.

I should like to believe human phenomena are regulated by the same laws as those of the vegetable and animal world: the disappearance and complete extirpation of a human family, and all the more of a nation, is a fact no less difficult to bring about than that of a species of the fauna or flora of a region. As it is necessary in facts of this kind to admit a cataclysm, a radical alteration of the conditions of a country, so to account for the disappearance of a family we should be obliged to suppose one of those tremendous human tidal waves with absolutely destructive effect. Now, can we prove with certainty such a phenomenon of general renewal among the Mediterranean races, especially those of the islands, from the Neolithic period on? In my opinion the answer cannot be doubtful.

ANTONIO TARAMELLI.

¹ Brückner, in Dörpfeld, *Troja*, 1893, p. 104: "Bei diesem Zusammenhange mit älteren troischen Formen, liegt kein Grund vor die entwickeltern einem andern Volksstamme zuzuschreiben."